CLAIM SET AS AMENDED

1 - 31. (Cancelled)

32. (Currently Amended) A chemical heat pump including:

a vessel,

a substance and a sorbate arranged in the vessel, the substance exothermally absorbing and endothermally desorbing the sorbate, and

a double heat exchanger/substance structure placed in the vessel and including:

two parallel at least partly heat conducting walls or plates defining a space through which a heat exchanger medium passes,

the substance arranged as a substance layer on an inner surface of each of the at least partly heat conducting walls or plates,

gas transport channels arranged at outer surfaces of the substance layers, opposite inner surfaces of the substance layers ~~that are~~ located at the inner surfaces of the at least partly heat conducting walls or plates, and

heat transport enhancing structures in the substance layers and connected to the inner surfaces of the at least partly heat conducting walls or plates to make heat conduction through the substance layers and transport of vapor of the sorbate in the substance layers have substantially the same direction.

33. (Previously Presented) The chemical heat pump of claim 32, wherein a plurality of double heat exchanger/substance structures are placed at each other in the vessel to form a package, adjacent double heat exchanger/substance structures sharing the gas transport channels.

34. (Previously Presented) The chemical heat pump of claim 32, wherein the heat transport enhancing structures include flanges which project from the inner surfaces of the at least partly heat conducting walls or plates.

35. (Previously Presented) The chemical heat pump of claim 32, wherein the at least partly heat conducting walls or plates are interconnected by a structure forming channels so that a heat exchanger medium passing in the space defined by the at least partly heat conducting walls or plates flows through the channels.

36. (Previously Presented) A chemical heat pump including:

a vessel,

a substance and a sorbate arranged in the vessel, the substance exothermally absorbing and endothermally desorbing the sorbate, and

a heat exchanger/substance structure having the shape of a cylinder ring placed in the vessel and including:

circular pipe loops for transporting a heat carrier medium,

radially placed heat conducting walls or plates mounted to and in thermal contact with the circular pipe loops,

the substance arranged in spaces defined by and between the heat conducting walls or plates.

37. (Previously Presented) The chemical heat pump of claim 36, wherein the substance is arranged as substance layers on the surfaces of the heat conducting walls or plates, thereby forming gas transport channels between outer surfaces of the substance layers for transport of vapor of the sorbate.

38. (Previously Presented) The chemical heat pump of claim 36, further including gas transport channels parallel to the heat conducting walls or plates for transport of vapor of the sorbate.

39. (Previously Presented) The chemical heat pump of claim 38, wherein the gas transport channels are formed between nets delimiting or confining the substance.

40. (Previously Presented) The chemical heat pump of claim 39, wherein the nets extend along planes through an axis of the cylinder ring.

41. (Previously Presented) The chemical heat pump of claim 36, further including nets extending along envelope and bottom surfaces of the cylinder ring for delimiting or confining the substance.

42. (Previously Presented) The chemical heat pump of claim 36, including a plurality of concentric heat exchanger/substance structures.

43. (Previously Presented) The chemical heat pump of claim 36, further including heat transport enhancing structures connected to the heat conducting walls or plates and extending in the spaces defined by and between the heat conducting walls or plates into the substance arranged therein.

44. (Previously Presented) A chemical heat pump including:

a plate-shaped accumulator,

a plate-shaped condenser/evaporator, and

a tubular conduit for gas transport between the accumulator and the condenser/evaporator, wherein

the plate-shaped accumulator is placed on top of the plate-shaped condenser/evaporator separated by a layer of heat isolating material, and

the tubular conduit is centrally located in relation to the plate-shaped accumulator and the plate-shaped condenser/evaporator.

45. (Previously Presented) The chemical heat pump of claim 44, wherein the length of the tubular conduit is equal to the thickness of the layer of heat isolating material.

46. (Previously Presented) The chemical heat pump of claim 44, wherein the length of the tubular conduit is smaller than the thicknesses of the plate-shaped accumulator and the plate-shaped condenser/evaporator.

47. (Previously Presented) The chemical heat pump of claim 44, wherein the thickness of the layer of heat isolating material is smaller than the thicknesses of the plate-shaped accumulator and the plate-shaped condenser/evaporator.

48. (Previously Presented) The chemical heat pump of claim 44, wherein the thickness of the layer of heat isolating material is substantially equal to the thickness of the plate-shaped condenser/evaporator.

49. (Previously Presented) The chemical heat pump of claim 44, wherein the thickness of the layer of heat isolating material is substantially equal to half the thickness of the plate-shaped accumulator.

50. (Previously Presented) The chemical heat pump of claim 44, wherein a solid substance is located in an upper space of the accumulator, a flange heat exchanger arranged in the upper space for interaction with the solid substance, the solid substance exothermally absorbing and endothermally desorbing a sorbate.

51. (Previously Presented) The chemical heat pump of claim 50, further including a heat exchanger pipe arranged in the upper space and connected to flanges of the flange heat exchanger.

52. (Previously Presented) The chemical heat pump of claim 51, further including an electric immersion heater inserted in the heat exchanger pipe.

53. (Previously Presented) The chemical heat pump of claim 50, further including support flanges in a lower space of the accumulator, flanges of the flange heat exchanger and the support flanges together forming a support against the force of the air pressure acting on the accumulator.

54. (Previously Presented) The chemical heat pump of claim 50, further including a net in the accumulator, the net separating the upper space from a lower space of the accumulator and confining the solid substance.

55. (Previously Presented) The chemical heat pump of claim 44, further including perforated support flanges in the evaporator/condenser for supporting the evaporator/condenser against the force of the air pressure and to conduct heat to and from liquid sorbate in the evaporator/condenser.

56. (Currently Amended) The chemical heat pump of claim 44, wherein the plate-shaped accumulator, the plate-shaped condenser/evaporator, the ~~a~~ tubular conduit and the layer of heat isolating material together form a lid of a cooling box.

57. (Previously Presented) A chemical heat pump including an active solid substance and a sorbate, the active solid substance exothermally absorbing and endothermally desorbing the sorbate, the active solid substance all the time having a fixed location, existing in a solid state in an accumulator and vapor of the sorbate moving between the accumulator and a condenser/evaporator, the condenser/evaporator containing a varying amount of liquid sorbate, wherein the active solid substance has a temperature difference ΔT of substantially 20 – 40 °C within a temperature range of substantially 0 – 100 °, where the temperature difference ΔT is the difference between the temperature in the accumulator and the temperature in the condenser/evaporator for a state in which a pressure equilibrium exists between the active solid substance in the accumulator and the liquid portion of the sorbate in the condenser/evaporator.

58. (Previously Presented) The chemical heat pump of claim 57, wherein the active solid substance has an energy content counted as energy of evaporation comprising at least 0.15 kWh/l of the active solid substance.

59. (Previously Presented) The chemical heat pump of claim 57, wherein the active solid substance has an energy content counted as energy of evaporation comprising at least 0. 20 kWh/l of the active solid substance.

60. (Previously Presented) The chemical heat pump of claim 57, wherein the active solid substance is $CoCl_2$.

61. (Previously Presented) The chemical heat pump of claim 57, wherein the active solid substance is $Ba(OH)_2$.

62. (Previously Presented) The chemical heat pump of claim 57, wherein the active solid substance is LiOH.

63. (Previously Presented) The chemical heat pump of claim 57, wherein the active solid substance is $SrBr_2$.

64. (Previously Presented) The chemical heat pump of claim 57, wherein the active solid substance within the temperature range reacts with the gaseous phase of the sorbate in at least two phase transitions having ΔT's which are located close to each other.

65. (Previously Presented) The chemical heat pump of claim 57, wherein the sorbate is water.

66. (New) The chemical heat pump of claim 32, wherein the active solid substance is $CoCl_2$.